PRIMARY EDUCATION

Primary Education

The primary program is that part of the Kentucky education system in which children are enrolled from the time they begin elementary school until they are ready to enter the fourth grade. The critical attributes of the primary program include developmentally appropriate practices, multi-age and multi-ability classrooms, continuous progress, authentic assessment, qualitative reporting methods, professional teamwork and positive parent involvement.

The primary curriculum is grounded in these critical attributes. It provides opportunities for students to learn basic skills, social behaviors (e.g., working with others, taking turns) and skills students must acquire to be successful in school (e.g., study skills, organization). Teachers use an integrated approach to curriculum and instructional design, addressing the intellectual, social, emotional, aesthetic and physical needs of young children to provide optimum learning environments.

Content charts included in this document for the primary program are not arranged sequentially by grade. Rather, they include the minimum content students need to be successful as they transition to fourth grade.

Program of Studies – Inquiry and Research – Primary

Embedded within each content area are Inquiry and Research standards.

Big Idea: Inquiry and Research

The Big Idea for Inquiry and Research states: the inquiry process is an authentic method of learning that includes activities such as self-selecting topics, formulating authentic questions, gathering information, researching resources, crafting experiments, observing, interviewing, evaluating information, analyzing and synthesizing data, and communicating findings and conclusions. The information-gathering stage is a self-directed process that is owned by the engaged learner. Individually and collaboratively, students work for a particular purpose, such as to discuss a text, solve a problem, make a decision, reach new understandings, and/or create products.

Academic Expectations

5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.
5.3 Students organize information to develop or change their understanding of a concept.
5.4 Students use a decision-making process to make informed decisions among options.
5.5 Students use problem-solving processes to develop solutions to relatively complex problems.
6.1 Students connect knowledge and experiences from different subject areas.
6.2 Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.
6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.
1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.

Enduring Knowledge – Understandings

Students will understand that

- the inquiry process is used to investigate topics or questions important to the researcher. Questions are redefined throughout the learning process. The researcher may revise the question, refine a line of query, or go in a direction that the original question did not anticipate.
- many methods of and sources for investigation exist, including interview, observation, survey, viewing, experimenting, and critical reading. The ability to synthesize meaning is the creative spark that forms new knowledge.
- inquiry integrates elements and processes of reading, writing, research, creative and critical thinking, and logic, and involves communicating findings through a product.
- collaboration involves sharing new ideas with others. Shared knowledge is a community-building process, and the meaning of research/investigation takes on greater relevance in the context of the learner's society. Comparing notes, discussing conclusions, and sharing experiences are all examples of this process in action.
- reflection is ongoing and integral to the inquiry and research processes and involves taking the time to look back at the question, the research strategy, and the conclusions made. The learner evaluates, makes observations, and possibly makes new decisions.

PRIMARY ARTS AND HUMANITIES

Program of Studies – Arts and Humanities – Primary

The arts and humanities program in the primary level centers on an exploration of the art forms of dance, drama/theatre, music and visual arts. Emphasis should be placed on exposing students to a variety of arts through active experiences in all four art forms. This exploration includes a beginning of literacy development in the arts content areas, simple analysis and critique of the arts, and active creating and performing in the arts.

Students should have the opportunity to learn about the arts in the context of creating and performing. As students create and perform, they learn that the arts are basic to human communication and that they can use the arts to communicate specific meaning through their choices in the use of various arts elements and principles of design.

The arts and humanities content standards at the primary level are directly aligned with Kentucky's broad standards called the **Academic Expectations**. The **Academic Expectations** are directly related to the *National Standards for Arts Education (1994)*.

Arts and humanities grade level content standards are organized around five “Big Ideas” that are important to the arts disciplines. The five big ideas in arts and humanities are: Structures in the Arts, Humanity in the Arts, Purposes for Creating the Arts, Processes in the Arts and Interrelationships Among the Arts. The Big Ideas are conceptual organizers for arts and humanities and are similar at each grade level to ensure students have multiple opportunities throughout their school careers to develop skills and concepts linked to each Big Idea.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of the arts and humanities. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for arts and humanities are fundamental to arts literacy and proficiency, and build on prior learning.

The three arts processes of creating, performing and responding to the arts provide a basis for deep understanding and appreciation of the arts. In the processes of creating and performing, a variety of technologies are employed, ranging from primitive technologies to cutting edge electronic and digital technologies.

Creating involves planning and creating new music, dance, drama/theatre or visual arts, or it may involve improvising in music, dance or drama/theatre. Improvising is the composing of new music, reciting/acting new dramatic material, or creating new dance movements on the spur of the moment.

Performing is limited to the performing arts of music, dance and drama/theatre. Performing involves presenting previously created works for an audience. Although the process of performing involves following a creative plan conceived by a composer, playwright or choreographer, there is still opportunity for creative interpretations in the performance.

Responding to the arts involves responses on multiple levels. The arts are a tool for communication and are capable of delivering meaning through literal and emotional content. Responding to the emotional content of artworks involves actually feeling the emotion(s) set forth by the creator. Responding can also involve intellectual analysis of works of art in regard to their design, effectiveness and quality.

Academic Expectations 2.25 and 2.26 bring forward the study of the humanities in the arts. The arts reflect time, place and society and offer a mirror to the human experience. The powerful communication qualities of the arts also enable them to be a factor that can drive the human experience. Study of historical and cultural contexts in the arts is an essential and integral part of instruction across all the art forms and across all grade levels.

Primary level students should have the opportunity to experience the arts of various cultures around the world, but specific study should focus on influences in the early history of America and the United States, specifically Native American arts, West African arts, Appalachian arts; how the arts are part of these cultures and purposes they have served in those cultures. Students will also study European arts that influenced arts in the American Colonial period.

Big Idea: Structure in the Arts

Understanding of the various structural components of the arts is critical to the development of other larger concepts in the arts. Structures that artists use include elements and principles of each art form, tools, media and subject matter that impact artistic products, and specific styles and genre that provide a context for creating works. It is the artist's choice of these structural components in the creative process that results in a distinctively expressive work. Students make choices about how to use structural organizers to create meaningful works of their own. The more students understand, the greater their ability to produce, interpret, or critique artworks from other artists, cultures and historical periods.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.23 Students analyze their own and others' artistic products and performances using accepted standards.

Primary Enduring Knowledge – Understandings

Students will understand that

- the elements of music, dance, and drama are intentionally applied in creating and performing.
- the elements and principles of design of visual art are intentionally applied in creating works of art.
- responding to or critiquing works of art involves an understanding of elements, principles and structures appropriate to each area of the arts.
- existing and emerging technologies can inspire new applications of structural components.

Primary Skills and Concepts – Music

Students will

- begin to recognize and identify elements of music (rhythm, tempo, melody, harmony, form, timbre, dynamics) using musical terminology
- use the elements of music while performing, singing, playing instruments, moving, listening, reading music, writing music, and creating music independently and with others
- listen to and explore how changing elements results in different musical effects
- recognize, describe and compare various styles of music (spirituals, game songs, folk songs, work songs, lullabies, patriotic, bluegrass)

Primary Skills and Concepts – Dance

Students will

- begin to recognize and identify elements of dance (space, time, force) and basic dance forms using dance terminology
- use the elements of dance in creating, copying and performing patterns of movement independently and with others
- observe, describe and demonstrate locomotor (e.g. walk, run, skip, gallop) and nonlocomotor (e.g. bend, stretch, twist, swing) movements

Big Idea: Structure in the Arts – Continued

Primary Skills and Concepts – Drama/Theatre
Students will

- begin to recognize and identify elements of drama (literary, technical, performance) using drama/theatre terminology
- use the elements of drama in creating and performing dramatic works independently and with others
- observe, describe and apply creative dramatics (improvisation, mimicry, pantomime, role playing and story telling) in a variety of situations
- explore a variety of dramatic works (e.g., theater, dramatic media – film, television)

Primary Skills and Concepts – Visual Arts
Students will

- begin to recognize and identify elements of art (line, shape, form, texture, color) and principles of design (emphasis, pattern, balance, contrast) using visual art terminology
- use the elements of art and principles of design in creating artworks independently and with others
- explore, describe and compare elements of art (e.g., line, shape, form, texture, primary and secondary colors, color schemes) and principles of design (e.g., focal point, pattern, balance, contrast) in two and three dimensional artworks

Big Idea: Humanity in the Arts

The arts reflect the beliefs, feelings, and ideals of those who create them. Experiencing the arts allows one to experience time, place and/or personality. By experiencing the arts of various cultures, students can actually gain insight into the beliefs, feelings and ideas of those cultures. Students also have the opportunity to experience how the arts can influence society through analysis of arts in their own lives and the arts of other cultures and historical periods. Studying the historical and cultural stylistic periods in the arts offers students an opportunity to understand the world past and present, and to learn to appreciate their own cultural heritage. Looking at the interrelationships of multiple arts disciplines across cultures and historical periods is the focus of humanities in the arts.

Academic Expectations

2.24 Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.

2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Primary Enduring Knowledge – Understandings

Students will understand that

- the arts are powerful tools for understanding human experiences both past and present.
- the arts help us understand others' (often very different) ways of thinking, working, and expressing ourselves.
- the arts play a major role in the creation and defining of cultures and building civilizations.

Primary Skills and Concepts – Music

Students will

- begin to associate music they listen to or perform with specific cultures (Native American, Appalachian, West African); describe in simple terms how the music reflects the cultures
- begin to associate music they listen to or perform with the Colonial American period in history; describe in simple terms how the music reflects the Colonial American time period
- begin to describe the music of specific cultures using music terminology

Primary Skills and Concepts – Dance

Students will

- begin to associate dances they observe or perform with specific cultures (Native American, Appalachian, West African); describe in simple terms how dances reflect the cultures
- begin to associate dances they observe or perform with the Colonial American period in history; describe in simple terms how dances reflect the Colonial American time period
- begin to describe the dance of specific cultures using dance terminology

Primary Skills and Concepts – Drama/Theatre

Students will

- begin to associate folktales, legends, or myths they experience or perform with specific cultures (Native American, Appalachian, West African); describe in simple terms how literature and oral tradition reflect the cultures
- begin to associate folktales, legends, or myths they experience or perform with the Colonial American period in history; describe in simple terms how literature and oral tradition reflect the Colonial American time period
- begin to describe folktales, legends, or myths of specific cultures using drama/theatre terminology

Big Idea: Humanity in the Arts – Continued

Primary Skills and Concepts – Visual Arts
Students will

- begin to associate artworks they experience or create with specific cultures (Native American, Appalachian, West African); describe in simple terms how the art of these cultures reflects the cultures
- begin to associate artworks they experience or create with the Colonial American period in history; describe in simple terms how the art of the American Colonies reflects the Colonial American time period
- begin to describe artworks of specific cultures using visual art terminology

Big Idea: Purposes for Creating the Arts

The arts have played a major role throughout the history of humans. As the result of the power of the arts to communicate on a basic human level, they continue to serve a variety of purposes in society. The arts are used for artistic expression to portray specific emotions or feelings, to tell stories in a narrative manner, to imitate nature and to persuade others. The arts bring meaning to ceremonies, rituals, celebrations and commemorations. Additionally, they are used for recreation and to support recreational activities. Students experience the arts in a variety of roles through their own creations and performances and through those of others. Through their activities and observations, students learn to create arts and use them for a variety of purposes in society.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Primary Enduring Knowledge – Understandings

Students will understand that

- the arts fulfill a variety of purposes in society (e.g., to present issues and ideas, to entertain, to teach or persuade, to design, plan and beautify).
- the arts have value and significance for daily life. They provide personal fulfillment, whether in career settings, avocational pursuits, or leisure.
- the arts provide forms of nonverbal communication that can strengthen the presentation of ideas and emotions.

Primary Skills and Concepts – Music

Students will

- begin to develop an awareness of the purposes for which music is created (e.g., ceremonial, recreational, artistic expression)
- listen to and perform music created to fulfill a variety of specific purposes

Primary Skills and Concepts – Dance

Students will

- begin to develop an awareness of the purposes for which dance is created (e.g., ceremonial, recreational, artistic expression)
- observe and perform dance created to fulfill a variety of specific purposes

Primary Skills and Concepts – Drama/Theatre

Students will

- begin to develop an awareness of the purposes for which dramatic works are created (e.g., sharing the human experience, passing on tradition and culture, recreational, artistic expression)
- observe and perform dramatic works created to fulfill a variety of specific purposes

Primary Skills and Concepts – Visual Arts

Students will

- begin to develop an awareness of the purposes for which artworks are created (e.g., ceremonial, artistic expression, narrative, functional)
- create new and experience artworks designed to fulfill a variety of specific purposes

Big Idea: Processes in the Arts

There are three distinctive processes involved in the arts. These processes are creating new works, performing works for expressive purposes and responding to artworks. Each process is critical and relies on others for completion. Artists create works to express ideas, feelings or beliefs. The visual arts capture a moment in time while the performing arts (music, dance, drama/theatre) are performed for a live audience. The audience responds to the artistic expressions emotionally and intellectually based on the meaning of the work. Each process enhances understanding, abilities, and appreciation of others. Students involved in these processes over time will gain a great appreciation for the arts, for artists past and present and for the value of artistic expression.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.

Primary Enduring Knowledge – Understandings

Students will understand that

- there are three distinct processes for involvement in the arts; creating new artworks, performing works previously created and responding to artworks and performances.
- full understanding and appreciation of the arts requires some degree of involvement in all three processes.
- openness, respect for work and an understanding of how artists apply elements and principles of design in creating and performing are personal attitudes and skills that enhance enjoyment of the observer.
- existing and emerging technologies can extend the reach of the art form to new audiences.

Primary Skills and Concepts – Music

Students will

- be actively involved in creating and performing music alone and with others
- begin to learn how to use knowledge of the elements of music and music terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating music (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of music being performed; discuss opinions with peers in a supportive and constructive way

Primary Skills and Concepts – Dance

Students will

- be actively involved in creating and performing dance alone and with others
- begin to learn how to use knowledge of the elements of dance and dance terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating dance (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dance being performed; discuss opinions with peers in a supportive and constructive way

Big Idea: Processes in the Arts – Continued

Primary Skills and Concepts – Drama/Theatre
Students will

- be actively involved in creating and performing dramatic works
- begin to learn how to use knowledge of the elements of drama and drama terminology to describe and critique their own performances and the performances of others
- identify possible criteria for evaluating dramatic works (e.g., skill of performers, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of dramatic works being performed; discuss opinions with peers in a supportive and constructive way

Primary Skills and Concepts – Visual Arts
Students will

- be actively involved in creating artworks
- begin to learn how to use knowledge of the elements and principles of art and art terminology to describe and critique their own work and the work of others
- identify possible criteria for evaluating visual arts (e.g., skill of artist, originality, emotional impact, variety, interest)
- demonstrate behavior appropriate for observing the particular context and style of visual arts being viewed; discuss opinions with peers in a supportive and constructive way
- describe personal responses to artwork; explain why there might be different responses to specific works of art

Big Idea: Interrelationships Among the Arts

The arts share commonalities in structures, purposes, creative processes, and their ability to express ideals, feelings and emotions. Studying interrelationships among the arts enables students to get a broad view of the expressiveness of the art forms as a whole, and helps to develop a full appreciation of the arts as a mirror of human kind.

Academic Expectations

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13 Students make sense of ideas and communicate ideas with the visual arts.
1.14 Students make sense of ideas and communicate ideas with music.
1.15 Students make sense of and communicate ideas with movement.
2.22 Students create works of art and make presentations to convey a point of view.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
2.26 Through the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.

Primary Enduring Knowledge – Understandings

Students will understand that

- the arts are basic forms of human communication.
- music, dance, drama and visual art created in common cultures and/or common historical periods tend to reflect common attitudes, ideas, beliefs, and feelings.
- the arts provide forms of non-verbal communication that can strengthen the presentation of ideas and emotions.
- the modes of thinking and methods of the arts disciplines can be used to illuminate situations in other disciplines that require creative solutions.

Primary Skills and Concepts – Arts

Students will

- begin to recognize that common terms are used in various arts (e.g., tempo in dance and music)
- begin to notice communication of common themes or ideas across different art forms
- identify and explain connections between and among different art forms from the same culture or from the same time period
- begin to identify commonalities between the arts and other subjects taught in the school (e.g., observation skills in visual arts and science, historical and cultural perspectives in the arts and social studies, shape in visual art and mathematics, dance and a healthy lifestyle, fractions in music notation and mathematics, reading music and reading words, composing music and writing)
- communicate common meaning through creating and performing in the four art forms

PRIMARY ENGLISH LANGUAGE ARTS

Program of Studies – English/Language Arts – Primary

The English/Language Arts (ELA) content standards at the primary level are directly aligned with Kentucky's **Academic Expectations**. ELA standards are organized around Big Ideas in reading, writing, speaking, listening and observing that are important to the discipline of English/Language Arts. The Big Ideas are conceptual organizers for ELA and are similar throughout the primary level to ensure that students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of ELA. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame the development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to primary. The skills and concepts for ELA are fundamental to the reading, writing, speaking, listening and observing processes. Lessons should offer students a wide range of experiences with print and non-print materials that have literary and informational purposes and allow for an integrated program.

Reading: The five Big Ideas of Reading in Primary are Forming a Foundation for Reading, Developing an Initial Understanding, Interpreting Text, Reflecting and Responding to Text, and Demonstrating a Critical Stance. Primary students must be exposed to a variety of texts designed to build a wide range of reading experiences with print and non-print materials to develop an understanding of texts, of themselves, and of different cultures. The complexity of literary and informational texts selected for instruction should be appropriate for the individual primary student. Reading instruction should focus on before, during and after reading strategies to aid in student comprehension of texts. Students should have the resources to develop the language skills they need to pursue life’s goals and to participate fully as informed, productive members of society.

Writing: ELA standards in writing are divided in the four Big Ideas of Writing Content, Structure, Conventions and Process. Students are required to write using the criteria for effective writing included in these Big Ideas. The central idea of the writing standards is *effective communication*. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and learning experiences. Additionally, students will write in authentic forms for authentic purposes and audiences.

Speaking, Listening and Observing: These standards emphasize that speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences and meetings, and interactions with media.

The **Academic Expectations** for ELA are:

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.

1.2 Students make sense of the variety of materials they read.

1.3 Students make sense of the various things they observe.

1.4 Students make sense of the various messages to which they listen.

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Big Idea: Forming a Foundation (Reading)

Forming a foundation requires readers to develop and apply basic reading skills and strategies across genres to read and understand texts at the appropriate grade level. This involves reading a variety of texts at the word, sentence, and connected text level across all content areas.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Primary Enduring Knowledge – Understandings

Students understand that

- knowing how letters are linked to sounds to form letter-sound correspondence and spelling patterns can help determine unfamiliar words while reading.
- fluency involves reading orally and silently with speed, accuracy, proper phrasing and expression while attending to text features (e.g., punctuation, italics).
- developing breadth of vocabulary improves reading comprehension and involves applying knowledge of word meanings and word relationships. The larger the reader's vocabulary the easier it is to make sense of text.
- many words have multiple meanings. Knowledge of syntax/language structure, semantics/meaning, context cues, and the use of resources can help in identifying the intended meaning of words and phrases as they are used in text.

Big Idea: Forming a Foundation (Reading) – Continued

Primary Skills and Concepts
Students will

- demonstrate an understanding of concepts of print, phonological awareness, and word identification strategies by:
  - distinguishing between printed letters and words, following text (e.g., one-to-one match of spoken words to print), finding key parts of books; identifying purposes of capitalization, punctuation, and text features (e.g., boldface type, italics, indentations) to make meaning of the text
  - recognizing, isolating, and combining sounds to make words, identifying syllables and parts of words (prefixes, suffixes)
  - reading high-frequency/grade-appropriate words with automaticity, identifying and reading single and multi-syllabic words using knowledge of sounds, word structure, syllable types, and word patterns
  - producing rhyming words and recognize pairs of rhyming words
  - recognizing irregularly spelled words and such spelling patterns as diphthongs, special vowel spellings and common word endings
  - using onsets (in a word, the sound of the letter or letters preceding the first vowel – <u>s</u>it) and rimes (the first vowel and remaining part of the word – s<u>it</u>) to create new words that include blends and digraphs
- apply context and self-correction strategies while reading (e.g., using pictures, syntax, predictive language to predict upcoming words and text, monitoring own reading, self-correcting, confirming meaning, adjusting pace of reading or rereading to acquire meaning, previewing text selections)
- read grade-appropriate material – orally and silently - with accuracy and fluency
- use a variety of reading strategies to understand words, word meanings, and texts to develop breadth of vocabulary:
  - formulate questions to guide reading (before, during and after reading)
  - apply word recognition strategies (e.g., phonetic principles, context clues, structural analysis) to determine pronunciations or meanings of words in passages
  - use context clues to identify the correct meaning as the word is used
  - apply knowledge of synonyms, antonyms, homonyms/homophones, or compound words to assist comprehension
  - apply the meanings of common prefixes or suffixes to comprehend unfamiliar words
  - organize words by categories (e.g., water is a liquid), functions (e.g., water is for drinking), or features (e.g., water flows)
- use resources (e.g., picture dictionaries, dictionaries, glossaries) to determine correct spelling of words and to identify multiple meanings of words and content-specific meanings of words

Big Idea: Developing an Initial Understanding (Reading)

Developing an initial understanding of text requires readers to consider the text as a whole or in a broader perspective. Texts (including multicultural texts) encompass literary and informational texts (expository, persuasive, procedural texts and documents). Strategies for gaining a broad or literal understanding of print texts can also be applied to non-print texts (e.g., digital, environmental).

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Primary Enduring Knowledge – Understandings

Students will understand that

- reading a wide range of print and non-print texts builds an understanding of texts, of themselves, and of different cultures.
- different purposes to read include reading to acquire new information and reading for personal fulfillment. Among these texts are plays, fiction and non-fiction, classic and contemporary works.
- the use of comprehension strategies enhances understanding of text.
- different types of texts place different demands on the reader. Understanding text features and structures, and characteristics associated with different genres (including print and non-print) facilitate the reader's ability to make meaning of the text.

Primary Skills and Concepts

Students will

- use comprehension strategies (e.g., using prior knowledge, predicting, generating clarifying and literal questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- use text structure cues (e.g., sequence, description, compare/contrast) to aid in comprehension
- describe explicitly stated cause and effect relationships
- distinguish between fiction and non-fiction texts
- identify unfamiliar words and specialized vocabulary
- make inferences based on what is read; make and check predictions
- demonstrate understanding of literary elements and literary passages/texts:
  - identify and describe characters, major events/plot, setting or problem/solution
  - identify characteristics (e.g., beginning-middle-end, rhyme, dialogue) of different types of literary texts (e.g., stories, poems, plays, fairy tales)
- demonstrate understanding of structure and features of informational passages/texts:
  - locate key ideas, facts or details
  - use information from text to state and support the central/main idea
  - identify text features (e.g., title, bold print) of different types of informational texts (e.g., lists, recipes, directions, children's magazines, dictionaries)
  - read and use functional messages encountered in daily life
  - use information from texts to accomplish a specific task or to answer questions
  - use text features and visual information (e.g., pictures, maps, charts, graphs, timelines, visual organizers) to understand text

Big Idea: Interpreting Text (Reading)

Interpreting text requires readers to extend their initial impressions to develop a more complete understanding of what is read. This involves linking information across parts of a text, as well as focusing on specific information. Texts encompass literary and informational texts (expository, persuasive, and procedural texts and documents). Strategies for interpreting print texts can also be applied to non-print texts (e.g., digital, environmental).

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Primary Enduring Knowledge – Understandings

Students will understand that

- interpretations of text involve linking information within and across parts of a text and determining importance of the information presented.
- references from texts provide evidence to support conclusions, the information presented, or the author's perspective.
- authors make intentional choices that are designed to produce a desired effect on the reader.

Big Idea: Interpreting Text (Reading) – Continued

Primary Skills and Concepts
Students will

- use comprehension strategies while reading, listening to, or viewing literary and informational texts (e.g., using prior knowledge, previewing text selections, making predictions, generating questions, constructing sensory images, using text features, making connections, determining importance of information)
- use text structure cues (e.g., sequence, compare/contrast) to aid in comprehension
- identify author's purpose (e.g., to entertain, to inform, to persuade)
- discuss why an author might have chosen to use particular language (e.g., words, phrases)
- examine relationships between earlier and later parts of a text and how these parts make sense together
- summarize a variety of reading passages by selecting the main ideas and main events or key points
- discuss the message of the text
- record and organize ideas found within texts to show understanding (e.g., charting, mapping)
- demonstrate understanding of literary elements and literary passages/texts:
  - identify traits of main characters, interpret possible motives, and explain a character's actions
  - trace characters and plot across multiple episodes
  - identify problems and explain how conflicts are resolved
  - recognize author's craft as appropriate to genre (e.g., figurative language/imagery, rhyme)
- demonstrate understanding of informational passages/texts:
  - distinguish between informative or persuasive passages
  - identify commonly used persuasive techniques (e.g., emotional appeal, testimonial)
  - identify an author's opinion
  - use evidence from the text to state central /main idea and details that support them
  - use text references to support conclusions based on what is read, for example, an author's opinion about a subject
  - distinguish between facts and opinions found in texts
  - identify information in a passage supported by facts
- pose questions and use a variety of print and non-print resources to find information to answer them
- understand and interpret the concepts and relationships described in a text
- evaluate information from multiple sources by determining necessary information and interpreting findings

Big Idea: Reflecting and Responding to Text (Reading)

Reflecting and responding to text requires readers to connect knowledge from the text with their own background knowledge and experience. The focus is on how the text relates to personal knowledge.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.

Primary Enduring Knowledge – Understandings

Students will understand that

- making connections involves thinking beyond the text and applying the text to a variety of situations. Connections may be expressed as comparisons, analogies, inferences, or the synthesis of ideas.
- references from texts provide evidence of applying ideas and making text-to-self, text-to-text, and text-to-world connections.
- reading a wide range of literature by different authors, and from many time periods, cultures, and genres, builds an understanding of the extent of human experience.

Primary Skills and Concepts

Students will

- use comprehension strategies (e.g., using prior knowledge, predicting, generating clarifying and literal questions, constructing sensory images, locating and using text features) while reading, listening to, or viewing literary and informational texts
- self-select texts based on personal interests
- generate a personal response to what is read, listened to or viewed:
  - relate stories or texts to prior knowledge, personal experiences, other texts, or ideas
  - provide text references/evidence to support connections made between text-to-self, text-to-text, or text-to-world
- read personal and other classmates writing
- extend the story (e.g., through discussion, role play, writing)
- voluntarily read aloud and to others, signaling a sense of themselves as a reader
- demonstrate participation in a literate community by sharing and responding to ideas and connections through writing and focused discussions about text

Big Idea: Demonstrating a Critical Stance (Reading)

Demonstrating a critical stance requires readers to consider the text objectively in order to evaluate its quality and appropriateness. It involves a range of tasks, including critical evaluation, comparing and contrasting, and understanding the impact of features, such as irony, humor, and organization. Knowledge of text content and structure is important.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools.
1.2 Students make sense of the variety of materials they read.
1.3 Students make sense of the various things they observe.
1.4 Students make sense of the various messages to which they listen.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.

Primary Enduring Knowledge – Understandings

Students will understand that

- reading is a process that includes applying a variety of strategies to comprehend, interpret, and evaluate texts.
- references from texts provide evidence to support judgments made about why and how the text was developed, considering the content, organization and form.
- determining the usefulness of text for a specific purpose, evaluating language and textual elements, and analyzing the author's style are all ways to critically examine texts.

Primary Skills and Concepts

Students will

- use comprehension strategies while reading, listening to, or viewing literary and informational texts (e.g., using prior knowledge, previewing text selections, making predictions, generating questions, constructing sensory images, using text features, making connections, determining importance of information)
- explain how text features are used to organize information for clarity or usefulness
- identify the organizational pattern used (e.g., description, sequence, cause/effect, compare/contrast) to understand the passage
- evaluate what is read, based on the author's purpose, message, word choice/language use, sentence variety, content or use of literary elements
- compare books by the same author, or books about the same theme or topic

Big Idea: Writing Content

To communicate effectively, students should be able to write for a variety of authentic purposes and audiences in a variety of forms, connecting to prior knowledge and the students' understanding of the content. In their writing, students should be able to create a focused purpose and controlling idea and develop ideas adequately considering the purpose, audience and form.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Primary Enduring Knowledge – Understandings

Students will understand that

- there are many reasons for all primary students to write, including writing-to-learn, writing-to-demonstrate learning, and writing for authentic purposes and audiences.
- different forms of writing are appropriate for different purposes and audiences across the content areas and have different features (e.g., journals, narratives, procedures).
- to be effective, writing must be a sufficiently developed, coherent unit of thought to address the needs of the intended audience.
- writing can be used to make meaning of one's own experience, as well as of other information/ ideas.

Primary Skills and Concepts

Students will

- write to learn by applying strategies effectively (e.g., learning logs, reflections)
- write to demonstrate learning and understanding of content knowledge (e.g., journals, exit/admit slips)
- write for a variety of authentic purposes and audiences:
  - communicate about personal experiences
  - communicate through authentic literary forms to make meaning about the human condition
  - communicate through authentic transactive purposes for writing (e.g. informing, describing, explaining)
  - communicate reflectively
  - recognize and address needs of intended audience
  - adjust the writing style (formal, informal) for intended audience
- communicate purpose, focus, and controlling ideas authentic to the writer
- develop ideas that are logical, justified and suitable for a variety of purposes, audiences and forms of writing (e.g., beginning with meaningful drawings, symbols and letters, and moving to use of appropriate written language—words/labels, phrases, sentences, paragraphs and whole texts)
- select and incorporate ideas or information (e.g., from reading or other learning), explaining reflections or related connections (e.g., identifying relationships and own experiences, offering support for conclusions, organizing prior knowledge about a topic)
- communicate understanding of ideas or events
- provide sufficient details for clear understanding
- use and sustain suitable voice or tone

Big Idea: Writing Structure

To communicate effectively, students should be able to apply knowledge of language and genre structures to organize sentences, paragraphs and whole pieces logically and coherently.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Primary Enduring Knowledge – Understandings

Students will understand that

- sentences must be complete and clear. Variety in sentence structure helps to engage the reader and make meaning more clear. Sometimes, unconventional sentence structure is appropriate for an intended effect upon the reader.
- different types of structures (e.g., paragraphs, stanzas) are appropriate for different purposes, audiences and different forms of writing. Paragraphs maintain focus on one central idea.
- structural elements such as context, meaningful order of ideas, transitional words/phrases and conclusions all help make meaning clear for the reader.

Primary Skills and Concepts

Students will

- use complete and correct sentences of various structures and lengths (e.g. simple, compound) to enhance meaning throughout a piece of writing; apply unconventional sentence structures to achieve intended effect on audience
- develop analytical structures appropriate to purpose (e.g., sequence, problem/solution, description, question/answer)
- establish a context for the reader and a controlling idea in the introduction; arrange ideas in meaningful order; and have an effective conclusion
- create paragraphs that maintain focus on one central idea; apply paragraph structures (block and indented) consistently
- use a variety of transitional words/phrases (e.g. time, order of sequence)
- incorporate text features (e.g., numbering, pictures, labels, diagrams, charts, shape in poetry) to enhance clarity and meaning

Big Idea: Writing Conventions

To communicate effectively, students should be able to apply knowledge of language conventions and have control over standard grammar and usage. Students should be able to choose precise language appropriate to the purpose.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Primary Enduring Knowledge – Understandings

Students will understand that

- writers need to choose their language with care, depending on the content, purpose and audience.
- language should be concise and precise. Strong verbs and nouns, concrete details and sensory language help make meaning clear to the reader.
- standard grammar and usage are important in making meaning clear to the reader; nonstandard grammar may be used for intended effect.
- writers need to use correct spelling, punctuation and capitalization.
- writers need to document sources /give credit for the ideas of others.

Primary Skills and Concepts

Students will

- choose precise and descriptive language for clarity and its effect on the reader (words with multiple meanings, strong nouns and verbs, concrete and sensory details, figurative language – similes)
- use specialized content vocabulary and words used for specific contexts, as needed
- apply correct grammar skills (e.g., complete sentences, various sentence structures, subject/verb agreement); mechanics (e.g., capitalization, punctuation); and usage (e.g., to/too/two; there/their)
- use grade-appropriate spelling (beginning with pictures/marks/signs that represent print and moving to correct beginning and ending sounds, to developmental spelling, to correct spelling in final drafts)
- use resources (e.g., picture dictionary, word wall) to correct spelling in final drafts
- document ideas from outside sources (e.g., citing authors or titles within the text)
- write legibly (e.g., print, cursive) leaving space between letters in a word, words in a sentence and words at the end of the edges of the paper

Big Idea: Writing Process

To communicate effectively, students should engage in the various stages of the writing process including focusing, prewriting, drafting, revising, editing, publishing and reflecting. The writing process is recursive; different writers engage in the process differently and proceed through the stages at different rates.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Primary Enduring Knowledge – Understandings

Students will understand that

- the writing process is a helpful tool in constructing and demonstrating meaning of content (whether personal expressive, literary, academic or practical) through writing.
- the stages are sometimes recursive (e.g., In the process of revising, a writer sometimes returns to earlier stages of the process).
- writers work through the process at different rates. Often, the process is enhanced by conferencing with others.

Primary Skills and Concepts

Students will

- focus: establish and maintain a controlling idea on a selected topic
- prewrite:
  - determine the most appropriate form to meet needs of purpose and audience
  - generate ideas to support and develop controlling idea (e.g., webbing, free writes, researching print and non-print sources, interviewing, observing, imagining and creating novel ideas)
  - organize and present ideas by taking notes and summarizing
- draft:
  - determine how, when and whether to use visuals (e.g., illustrations, diagrams) in addition to written text
  - logically incorporate information
- revise:
  - reflect on own writing
  - confer with peers and other writing conferencing partners to critically analyze one's own work and the work of others
  - confer to determine where to add, delete, rearrange, define/redefine or elaborate content so that writing is clear for intended audience, then make revisions
  - make sure paragraphs are supported appropriately with relevant details and that sentences are in sequential order; develop introductions and conclusions
- edit for appropriate language usage, sentence structure, spelling, capitalization, punctuation and appropriate documentation of sources
- publish
  - produce products for intended audience
  - present final work in a neat, legible form and share with intended audience
- reflect and evaluate personal progress and skills in writing

Big Idea: Speaking, Listening, and Observing

Speaking, listening and observing are fundamental processes which people use to express, explore and learn about ideas. The functions of speaking, listening and observing include gathering and sharing information, persuading others, expressing and understanding ideas, and selecting and critically analyzing messages. The contexts of these communication functions include one-to one conversations, small group discussions, large audiences, and meetings and interactions with media.

Academic Expectations

1.3 Students make sense of the various messages they observe.
1.2 Students make sense of the variety of materials they read.
1.4 Students make sense of the various messages to which they listen.
1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

Primary Enduring Knowledge – Understandings

Students will understand that

- communication, both formal and informal, is an interpretive process that integrates listening, observing, reading, writing and speaking with confidence. Different levels of discourse are appropriate for different contexts, occasions, purposes and audiences.
- regardless of the topic, the context or the intended audience, students need to be able to communicate ideas effectively. Effective communication involves verbal and nonverbal techniques to enhance or emphasize content. These techniques aid the listener's ability to interpret the information.
- language usage is related to successful communication; language patterns and vocabulary transmit culture and affect meaning.
- observation involves interpreting and constructing meaning. By viewing in context, students infer, construct meaning, draw conclusions and form opinions about the world around them.

Big Idea: Speaking, Listening, and Observing – Continued

Primary Skills and Concepts

In formal speaking situations, students will

- create oral presentations that
  - are appropriate for the purpose (e.g., to inform, persuade, entertain), audience, context and occasion
  - use appropriate details to support ideas
  - maintain a consistent focus
  - organize ideas in a coherent, meaningful way including an introduction and a conclusion that are appropriate to audience and purpose
- apply delivery techniques
  - both verbal (e.g., tone, volume, rate, articulation, pacing) and nonverbal (e.g., gestures, facial expressions, eye contact)
  - avoid distracting delivery behaviors (e.g. excessive verbal pauses, fidgeting)
  - use language appropriate to audience; use specialized content vocabulary as needed
  - adhere to standard guidelines for grammar, usage, mechanics or use non-standard language for effect when appropriate (e.g., word plays, slang, similes)
  - choose language for its effect on the audience (e.g., strong nouns, active verbs, concrete and sensory details, figurative language)
- use visual aids, media and tools of technology to support oral communication
- give credit to sources used (e.g., identifying authors, titles)

In informal speaking situations, students will

- give spoken instructions to perform specific tasks
- ask and respond to questions as a way to participate in class discussions
- play a variety of roles in group discussions (e.g., discussion leader, facilitator, responder)
- use different voice level, phrasing and intonation for different situations (e.g., small group settings, discussions)

When listening, students will

- follow spoken instructions to perform specific tasks
- identify specific information (e.g., main idea, supporting details)
- respond to information appropriately/respectfully in a variety of ways (e.g., summarizing orally, taking useful notes, organizing and recording that which is meaningful and useful)
- follow the organization of a presentation
- interpret the effectiveness of verbal and nonverbal delivery techniques, including visual cues
- build on the ideas of others and contribute appropriate information or ideas
- use self-evaluations and feedback from teachers/peers to improve presentations

When observing, students will

- evaluate media messages
- discuss the role of media in focusing attention and in forming opinion
- interpret a variety of techniques used to influence or appeal to a particular audience (e.g., persuasive techniques, appealing elements in commercials)
- identify visual and auditory cues (e.g., slow motion, music to create mood, sound effects) that enhance the message

PRIMARY MATHEMATICS

Program of Studies – Mathematics – Primary

The primary level mathematics program includes strong literacy connections, active and hands-on work with concrete materials and appropriate technologies. Primary level problem solving, mathematical communication, connections, mathematical reasoning and multiple representations should be a part of the mathematics curriculum. The use of these techniques enhances and extends students' mathematics skills. Accuracy is an integral part of the mathematics program.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss important mathematical concepts. Students must have regular opportunities to share their ideas with others and to solve problems generated as a result of their learning experiences.

The mathematics content standards at the primary level are directly aligned with Kentucky's **Academic Expectations**. Mathematics standards are organized around five “Big Ideas” that are important to the discipline of mathematics. The five big ideas in mathematics are: Number Properties and Operations, Measurement, Geometry, Data Analysis and Probability and Algebraic Thinking. The Big Ideas are conceptual organizers for mathematics and are similar at each grade level to ensure students have multiple opportunities throughout the students’ school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of mathematics. The understandings represent the desired results – what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for mathematics build on prior learning and are fundamental to mathematical literacy and mathematical power.

Effectively implementing the Program of Studies requires a common understanding of the process standards below.

Problem solving involves developing and applying strategies to problems from everyday and mathematical situations and evaluating the solutions relative to the original problem situation.

Mathematical communication includes manipulatives (concrete materials), visual representations and diagrams that relate language to mathematical symbols in speaking, reading, writing and listening.

Mathematical connections include:

- understanding how one concept relates to other concepts and procedures (e.g., the link between fractions and decimals)
- understanding how one concept relates to another (e.g., the link between area in geometry and in measurement)
- understanding how a mathematical concept relates to other disciplines (e.g., the link between graphing in statistics and in social studies).

Mathematical reasoning includes recognizing patterns and relationships and using models, known facts and mathematical properties to explain and justify thinking.

Multiple representations allow students to be able to recognize common mathematical structures across different contexts. In the primary program, students most often use representations to reason about objects and actions they can perceive directly.

Academic Expectation 1.5-1.9 (Students use mathematical ideas and procedures to communicate, reason, and solve problems.) is infused throughout the mathematics instruction P-12 and is integral to the content and instruction across all grade levels.

Academic Expectation 1.16 (Students will use computers and other kinds of technology to collect, organize, and communicate information and ideas.) is an essential and integral part of instruction across the content and the mathematics Program of Studies.

Big Idea: Number Properties and Operations

Whole number sense and addition and subtraction are key concepts and skills developed in early childhood. Students build on their number sense and counting sense to develop multiplication and division. They move flexibly and fluently through basic number facts, operations and representations. Their understanding of the base-10 number system expands to include decimals. They examine various meanings and models of fractions. They explore data, perform measurements and examine patterns as part of the development process for number and operations, using other mathematics strands to enrich number. Elementary number encompasses computational fluency with whole numbers, relationships between decimals and fractions and techniques for reasonable estimations.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.
2.8 Students understand various mathematical procedures and use them appropriately and accurately.

Primary Enduring Knowledge – Understandings

Students will understand that

- numbers, ways of representing numbers, relationships between numbers and number systems are means of representing real-world quantities.
- meanings of and relationships among operations provide tools necessary to solve realistic problems encountered in everyday life.
- computing fluently and making reasonable estimates increases the ability to solve realistic problems encountered in everyday life.

Primary Skills and Concepts – Number Sense

Students will

- read, write, count and model whole numbers 0-10,000, developing an understanding of place value for ones, tens, hundreds, thousands and ten thousands
- apply multiple representations (e.g., drawings, manipulatives, base-10 blocks, number lines, expanded form, symbols) to describe and compare whole numbers and fractions (e.g., halves, thirds, fourths) in mathematical and real-world problems
- order groups of objects according to quantity
- order, compare and understand the relative magnitude of numbers from 0-10,000, using the symbols <, >, =, including the use of physical and visual models for smaller numbers
- develop beginning fractional concepts (e.g., dividing an object into equal parts and naming the equal parts [e.g., halves, thirds, fourths])
- expand fraction concepts (e.g., whole to part and part to whole; one-half is larger than one-fourth)
- be introduced to and use decimals to represent money

Big Idea: Number Properties and Operations – Continued

Primary Skills and Concepts – Estimation
Students will

- explore appropriate estimation procedures for different situations
- apply and describe appropriate strategies for estimating quantities of objects and computational results

Primary Skills and Concepts – Number Operations
Students will

- develop an understanding of the concepts of addition and subtraction using physical objects and concrete materials
- explore and develop an understanding of the concepts of multiplication and division using physical models
- develop part-whole relations using numbers (e.g., 3+2=5, 1+4=5)
- explore and solve two-digit addition and subtraction problems through the use of manipulatives
- explore and develop factor-factor-product (e.g., 2x3=6) using manipulatives. (e.g., hundreds charts, base-10 blocks, arrays)
- multiply whole numbers through 10 x 10
- relate division facts to multiplication facts (e.g., using factor-factor-product)
- solve multi-digit addition and subtraction problems that contain numerals and symbols
- add common fractions with like denominators using manipulatives
- add and subtract decimals using money
- use mental math, pencil-and-paper methods, calculators and/or computers to explore mathematical concepts and to assist with computation in problem solving situations

Primary Skills and Concepts – Properties of Numbers and Operations
Students will

- explore, develop and use the concepts of multiples
- skip-count forwards and backwards by 2s, 5s, 10s and 100s, using manipulatives, mental math and written and electronic means to communicate understanding
- explore, develop and use the concepts of odd and even numbers
- explore and use of properties of numbers for written and mental computation (e.g., 4+7+6 could be mentally regrouped as 4+6+7 using the commutative property of addition)

Big Idea: Measurement

Students translate from measuring using nonstandard units to using standard units of measurement. They identify measurable attributes of objects, estimate and measure weight, length, perimeter, area, angles, temperature, time and money. They convert units within the same measurement system.

Academic Expectations

2.10 Students understand measurement concepts and use measurements appropriately and accurately.
2.11 Students understand mathematical change concepts and use them appropriately and accurately.

Primary Enduring Knowledge – Understandings

Students will understand that

- measurable attributes of objects and the units, systems and processes of measurement are powerful tools for making sense of the world around them.
- measurements are determined by using appropriate techniques, tools and formulas.
- for each situation, there is an appropriate degree of accuracy in measurement.

Primary Skills and Concepts – Measuring Physical Attributes

Students will

- apply standard units to measure length (inches and centimeters), weight (pounds), time (hours, half-hours, quarter-hours, five- and one-minute intervals), money (coins and bills) and temperature (Fahrenheit and Celsius)
- use nonstandard units to measure and compare the length, weight, area or volume of familiar objects
- use standard units of measurement to identify, describe and compare measurable attributes of objects (e.g., length, weight, volume) and make estimates using appropriate units of measurement
- choose and use appropriate tools for specific measurement tasks
- sort/classify or compare and order objects by shape, size and color (e.g., attribute blocks)
- estimate weight, length, perimeter, area, angle and time using appropriate units of measurement
- explore concepts of perimeter and area of rectangles using manipulatives
- identify, compare and order amounts of money using coins and bills and use correct symbols for money
- combine coins and bills to make a given amount and make change up to a dollar
- relate time to daily activities, tell time to the hour, half-hour, quarter-hour, five minutes and one minute and determine elapsed time

Primary Skills and Concepts – Systems of Measurement

Students will

- determine equivalent U.S. customary measurements
- describe, define, give examples of and use to solve real-world and/or mathematical problems both nonstandard and standard (U.S. Customary, metric) units of measurement to include length, time, money, temperature (Fahrenheit and Celsius) and weight

Big Idea: Geometry

Students explore and find basic geometric elements and terms, two-dimensional shapes and three-dimensional objects. They find and use symmetry. They move two-dimensional figures in a plane and explore congruent and similar figures.

Academic Expectation

2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.9 Students understand space and dimensionality concepts and use them appropriately and accurately.

Primary Enduring Knowledge – Understandings

Students will understand that

- characteristics and properties of two-dimensional figures and three-dimensional objects describe the world and are used to develop mathematical arguments about geometric relationships and to evaluate the arguments of others.
- representational systems, including coordinate geometry, are means for specifying locations and describing spatial relationships and are organizers for making sense of the world around them.
- transformations and symmetry are used to analyze real-world situations (e.g., art, nature, construction and scientific exploration).
- visualization, spatial reasoning and geometric relationships model real-world situations.

Primary Skills and Concepts – Shapes and Relationships

Students will

- identify, describe, model, draw, compare and classify two-dimensional figures and three-dimensional objects using elements, attributes and properties
- explore the relationships among two-dimensional figures and three-dimensional objects (e.g., using virtual manipulatives)
- identify and describe congruent figures in real-world and/or mathematical situations
- investigate and solve real-world problems using the elements, attributes and properties of basic two-dimensional figures and three-dimensional objects
- identify, draw and represent line segments and angles
- determine if simple shapes are congruent

Primary Skills and Concepts – Transformations of Shapes

Students will

- determine lines of symmetry in simple shapes and identify and describe symmetrical two-dimensional figures
- examine examples of line symmetry in real-world situations and apply one line of symmetry to construct simple geometric designs, using graphic, technological or concrete models/manipulatives to communicate understanding
- explore flips, slides and turns with physical models
- identify images from flips (reflections), slides (translations) and turns (rotations) in a plane

Primary Skills and Concepts – Coordinate Geometry

Students will

- locate points and figures on a grid representing a positive coordinate system

Big Idea: Data Analysis and Probability

Students pose questions, plan and collect data, organize and display data and interpret displays of data. They generate outcomes for simple probability activities, determine fairness of probability games and explore likely and unlikely events.

Academic Expectations

2.7 Students understand number concepts and use numbers appropriately and accurately.
2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.13 Students understand and appropriately use statistics and probability.

Primary Enduring Knowledge – Understandings

Students will understand that

- quantitative literacy is a necessary tool to be an intelligent consumer and citizen.
- the collection, organization, interpretation and display of data can be used to answer questions.
- the choice of data display can affect the visual message communicated.
- inferences and predictions from data are used to make critical and informed decisions.
- probability can be used to make decisions or predictions or to draw conclusions.

Primary Skills and Concepts – Data Representations

Students will

- make a graph using concrete manipulatives and read data displayed on a concrete graph
- display, read and compare data on student-invented graphs
- read, display, compare and interpret student-collected data
- display, read and compare data on a pictograph and bar graph
- display data in line plots
- analyze and make inferences from data displays (drawings, tables/charts, tally tables, pictographs, bar graphs, circle graphs, line plots, two-circle Venn diagrams)
- use technology to organize and display data collected from student investigations

Primary Skills and Concepts – Experiments and Samples

Students will

- pose questions to generate data
- use data from student investigations to make predictions or draw simple conclusions
- use tools (including technology when appropriate) to organize and display student-collected data

Primary Skills and Concepts – Probability

Students will

- explore chance through games and events
- compare likely and unlikely outcomes
- explore basic concepts of probability through simple experiments

Big Idea: Algebraic Thinking

Students explore and examine patterns and develop rules to go with patterns. They generate input-output for functions and create tables to analyze functions. Students use number sentences with missing values.

Academic Expectations

2.8 Students understand various mathematical procedures and use them appropriately and accurately.
2.11 Students understand mathematical change concepts and use them appropriately and accurately.
2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

Primary Enduring Knowledge – Understandings

Students will understand that

- patterns, relations and functions are tools that help explain or predict real-world phenomena.
- numerical patterns can be written as rules that generate the pattern.
- algebra represents mathematical situations and structures for analysis and problem solving (e.g., finding the missing value in open sentences).
- real-world situations can be represented using mathematical models to analyze quantitative relationships.
- functions are used to analyze change in various contexts and model real-world phenomena.

Primary Skills and Concepts – Patterns, Relations and Functions

Students will

- identify and describe patterns in real life and in numerical and geometric situations
- reproduce and extend patterns using manipulatives
- use pictures or words to create, reproduce, extend and explain patterns of shapes, objects, movements, sounds and numbers
- recognize and extend simple number patterns
- explore input-output machines (e.g., function machines) and solve simple function machine tasks
- use calculators to explore how constant addition produces a pattern and can be expressed as a rule for a pattern

Primary Skills and Concepts – Variables, Expressions and Operations

Students will

- explore unknowns and open sentences to express relationships
- create stories about mathematical sentences with missing values

Primary Skills and Concepts – Equations and Inequalities

Students will

- solve simple equations (e.g., 1 + 1 = [ ]; [ ] - 2 = 7)
- solve simple inequalities (e.g., [ ] < 6)
- solve for unknowns in simple open sentences
- read and create story problems to represent mathematical sentences with missing values
- use manipulatives, numbers and/or symbols to model real-world situations with simple number sentences

PRIMARY PRACTICAL LIVING
(HEALTH AND PHYSICAL EDUCATION)

Program of Studies – Practical Living – Primary

Students in the primary health education program develop an understanding of the body functions as well as behaviors and decisions that will foster life-long health. Health literacy is assuming responsibility for personal health throughout the life cycle as related to good nutrition and personal health habits, sound safety practices, violence avoidance, and the use of refusal skills. Health education at this level enables students to acquire the knowledge, skills, and practices that should be a part of their daily routine throughout life.

Physical education addresses both health-related and skill-related components that promote enhanced health behaviors and increase responsible decision-making. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge, and attitudes that contribute to their optimal development and well-being.

Primary level physical education assists in the development of children's motor and fitness skills. Developing fundamental movement patterns is the focus of the physical education curriculum at the primary level. While developing fundamental skill patterns, the students will begin to learn key movement concepts that help them perform in a variety of educational games and dances. Students in the primary grades learn to move through space with objects and other individuals. They will learn how their bodies react to vigorous physical activity. Students will learn to use safe practices, cooperate with and respect others and follow classroom rules. Experiences in physical education will help develop a positive attitude for leading a healthy, active lifestyle.

The Health and Physical Education content standards at the primary level are directly aligned with Kentucky's **Academic Expectations.** The Health and Physical Education standards are organized around five "Big Ideas" that are important to the discipline of health and physical education. These big ideas are: Personal Wellness, Nutrition, Safety, Psychomotor Skills and Lifetime Physical Wellness. The Big Ideas are conceptual organizers for health and physical education and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to health and physical education. The understandings represent the desired results- what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and Concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for health and physical education are fundamental to health literacy and build on prior learning.

The health and physical education program provides a connection to Kentucky's Learning Goals 3 (self-sufficient individuals) and Learning Goal 4 (responsible group member), which are included in Kentucky statue, but they are not included in the state's academic assessment program. These connections provide a comprehensive link between essential content, skills and abilities important to learning. In addition Learning Goal 5 (think and solve problems) and Learning Goal 6 (connect and integrate knowledge) are addressed in health and physical education.

All physical education courses taught in the state of Kentucky must be in compliance with the Federal Special Education Law and Title IX and shall not include practice for or participation in interscholastic athletics.

Big Idea: Personal Wellness (Health Education)

Wellness is maximum well-being, or total health. Personal Wellness is a combination of physical, mental, emotional, spiritual and social well-being. It involves making choices and decisions each day that promote an individual's physical well-being, the prevention of illnesses and diseases, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy.

Academic Expectations

2.29 Students demonstrate skills that promote individual well-being and healthy family relationships.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.32 Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.
4.1 Students effectively use interpersonal skills.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
5.4 Students use a decision-making process to make informed decisions among options.

Primary Enduring Knowledge – Understandings

Students will understand that

- individuals have a responsibility to maintain a healthy lifestyle.
- changes are normal and each individual is unique in the growth and development process.
- responsibility to others enhances social interactions skills.
- media and use of technology (e.g., television, computers, MP3 Players, electronic/arcade games) can influence personal health.
- behavioral choices affect physical, mental, emotional and social well-being and can have positive or negative consequences on one's health.
- positive health habits can help prevent injuries and the spreading of diseases to self and others.

Primary Skills and Concepts – Personal and Physical Health

Students will

- demonstrate awareness of the concept of responsibility to oneself and others
- identify relationships between personal health behaviors and individual well-being
- describe how the family, physical and social environments influence personal health
- recognize indicators of mental/emotional, social, and physical health during childhood
- explain why growth and development are unique to each individual
- describe how diet, exercise, and rest affect the body

Big Idea: Personal Wellness (Health Education) – Continued

Primary Skills and Concepts – Social, Metal and Emotional Health
Students will

- demonstrate social interaction skills by:
  - using etiquette, politeness, sharing and other positive social interaction skills
  - working and playing collaboratively in large and small groups
  - using appropriate means to express needs, wants and feelings
  - describing characteristics needed to be a responsible friend and family member
  - practicing attentive listening skills that build and maintain healthy relationships
  - identifying the differences between verbal and nonverbal communication
  - identifying social interaction skills that enhance individual health
- explain how an individual's attitude can affect one's personal health
  - social health: getting along with others, serving as team members
  - emotional health: expressing feelings, self-concept
- define and identify ways to manage stress (e.g., exercise, drawing/writing/talking about feelings)

Primary Skills and Concepts – Family and Community Health
Students will

- describe ways technology and media influence:
  - family
  - feelings and thoughts
  - physical, social, and emotional health

Primary Skills and Concepts – Communicable, Non-Communicable and Chronic Diseases Prevention
Students will

- identify and practice personal health habits (e.g., hand washing, care of teeth and eyes, covering coughs and sneezes, sun protection) which affect self and others in the prevention and spread of disease
- describe the reasons for regular visits to health care providers

Primary Skills and Concepts – Alcohol, Tobacco and Other Drugs
Students will

- identify the differences between the use/misuse of alcohol, tobacco and other drugs and the effects they have on the body

Big Idea: Nutrition (Health Education)

Proper nutrition is critical to good health. To maintain a healthy weight, good dietary habits and physical activity are essential. Nutritious foods are necessary for growth, development and maintenance of healthy bodies.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
3.2 Students will demonstrate the ability to maintain a healthy lifestyle.
3.5 Students will demonstrate self-control and self-discipline.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
5.4 Students use decision-making process to make informed decisions among options.

Primary Enduring Knowledge – Understandings

Students will understand that

- proper nutrition is essential to growth and development.
- nutrients provide energy for daily living.
- resources are available to assist in making nutritional choices.

Primary Skills and Concepts

Students will

- explain why foods are needed by the body (growth, energy)
- identify the six nutrients
- investigate the role of the digestive system in nutrition
- describe the reasons why an individual needs to eat breakfast
- identify the food groups and the recommended number of daily servings to be eaten from each group
- apply the decision-making process in making healthful food choices

Big Idea: Safety (Health Education)

Accidents are a major cause of injury and death to children and adolescents. Unintentional injuries involving motor vehicles, falls, drowning, fires, firearms, and poisons can occur at home, school and work. Safe behavior protects a person from danger and lessens the effects of harmful situations.

Academic Expectations

2.3 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
3.2 Students will demonstrate the ability to maintain a healthy lifestyle.
4.3 Students individually demonstrate consistent, responsive, and caring behavior.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
5.1 Students use skills such as analyzing, prioritizing, categorizing, evaluating and comparing to solve a variety of problems in real-life situations.
5.4 Students use a decision-making process to make informed decisions among-options.

Primary Enduring Knowledge – Understandings

Students will understand that

- safety practices and procedures help prevent injuries and provide a safe environment.
- community resources are available to assist in hazardous situations.

Primary Skills and Concepts

Students will

- explain and practice safety rules/procedures for crossing streets, riding in cars/buses, loading/unloading buses, and using playground equipment
- identify and explain how to help prevent injuries at home and at school (e.g., seat belts, helmets, knee pads)
- explain and demonstrate school and home safety procedures (e.g., tornado, fire, earthquake drills)
- demonstrate awareness of how to avoid danger (e.g., fires, strangers)
- identify procedures and practices for obtaining emergency assistance and information (e.g., fire department, police department, poison control, ambulance service, when to call 911)
- identify the available health and safety agencies in a community and the services they provide (e.g., health department, fire department, police, ambulance services)

Big Idea: Psychomotor Skills (Physical Education)

Cognitive information can be used to understand and enhance the development of motor skills such as movement sequences and patterns. Individuals who understand their bodies and how to perform various movements will be safer and more productive in recreation and work activities. Development of psychomotor skills contributes to the development of social and cognitive skills.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.34 Students perform physical movements skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
4.1 Students effectively use interpersonal skills.

Primary Enduring Knowledge – Understandings

Students will understand that

- spatial awareness, motor skills and movement patterns are needed to perform a variety of physical activities.
- movement concepts, principles and strategies apply to the learning and performance of physical activities.

Primary Skills and Concepts

Students will

- demonstrate fundamental motor skills (e.g., locomotor, non-locomotor, object manipulation) and movement concepts (e.g., body control, space awareness)
- demonstrate fundamental motor skill aspects of performance
- utilize fundamental motor skills and movement concepts to create movement sequences
- demonstrate the contrast between slow and fast movements while traveling
- demonstrate relationships (e.g., over, under, front and back, side-by-side, leading and following) with other people and objects
- define the role personal and general space has in movement
- work in group settings without physically interfering with others
- develop basic manipulative skills (e.g., throwing, catching, kicking, striking)

Big Idea: Lifetime Physical Wellness (Physical Education)

Lifetime Wellness is health-focused. The health-related activities and content utilized are presented to help students become more responsible for their overall health status and to prepare each student to demonstrate knowledge and skills that promote physical activity throughout their lives. Physical education uses physical activity as a means to help students acquire skills, fitness, knowledge and attitudes that contribute to their optimal development and well-being. Physical, mental, emotional, and social health is strengthened by regular involvement in physical activities.

Academic Expectations

2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well-being.
2.34 Students perform physical movements skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout lives.
3.1 Students demonstrate positive growth in self-concept through appropriate tasks or projects.
3.2 Students demonstrate the ability to maintain a healthy lifestyle.
3.7 Students demonstrate the ability to learn on one's own.
4.2 Students use productive team membership skills.

Primary Enduring Knowledge – Understandings

Students will understand that

- physical activity provides opportunities for social interaction, challenges, and fun.
- participation in regular physical activity has physical, mental, and social benefits.
- practice is a basic component for improving sport skills.
- rules impact effective participation in physical activities.
- personal and social behavior that shows respect to self and others impacts enjoyment and safety in physical activity settings.
- regular participation in health-related, physical activity supports the goals of fitness and a healthier lifestyle throughout life.

Primary Skills and Concepts

Students will

- identify likes and dislikes connected with participating in sports and physical activities (e.g., enjoyment, challenge, maintaining fitness, teamwork)
- identify benefits gained from regular participation in physical activities and describe activities that will promote a physically active lifestyle
- identify the physiological and psychological changes in the body during physical activity
- participate in daily physical activity during and after school
- explain the importance of practice for improving performance in games and sports for individuals
- when participating in a variety of physical activities and games:
  - explain why rules are used (e.g., safety, fairness)
  - differentiate between positive and negative behaviors (e.g., waiting your turn vs. pushing in line, honesty vs. lying)
  - practice cooperation strategies with partners and small groups
- demonstrate and describe the concept of sportsmanship (e.g., rules, fair play) in regard to games and activities
- identify and explain how spectator behaviors influence the safety and enjoyment of sports and games
- explore and identify a variety of physical activities that enhance the health related fitness components

PRIMARY SCIENCE

Program of Studies – Science – Primary

The science program at the primary level should provide opportunities for students to think and work like scientists. Students must be provided multiple opportunities to observe and experience the world around them in order to develop scientific conceptions and abilities necessary to do scientific inquiry. These abilities include: (1) asking a question about objects, organisms and events in the environment, (2) planning and conducting a simple investigation/fair test, (3) using simple equipment and tools to gather data and extend the senses, (4) using data to construct a reasonable explanation and (5) communicating investigations and explanations.

Students should have opportunities to work individually and in groups of varying size and composition in order to conduct investigations, process information and discuss/debate important scientific concepts. Students must have regular opportunities to share their ideas with others and to test questions they generate as a result of their learning experiences.

In our technologically advanced society, information gathering must extend beyond the classroom walls and must involve a variety of credible sources. Scientists also place a high value on accurate record keeping and open communication of findings. The science classroom should mirror this by emphasizing multiple, varied and consistent methods of documenting and communicating learning.

The scientific content standards at the primary level are directly aligned with Kentucky's **Academic Expectations**. Science standards are organized around seven “Big Ideas” that are important to the discipline of science. These Big Ideas are: Structure and Transformation of Matter, Motion and Forces, The Earth and the Universe, Unity and Diversity, Biological Change, Energy Transformations and Interdependence. The Big Ideas are conceptual organizers for science and are the same at each grade level. This ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of science. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for science are fundamental to scientific literacy, scientific inquiry and build on prior learning.

Effectively implementing the Program of Studies requires a common understanding of some of the terms referenced throughout this document. These terms include:

> **Investigate/Explore-** compile a variety of information through hands-on experiences (utilizing process skills such as measuring, observing, questioning, classifying, predicting and inferring) and/or consult a variety of print and non-print media in order to formulate conclusions and/or gather evidence/data.
>
> **Experiment/Test-** conduct a scientifically valid and controlled investigation, collecting and analyzing data. Use findings and conclusions to form logical explanations and openly share.

Research- consult a variety of credible sources of information to gain knowledge, answer questions and support conclusions and explanations.

Model- represent a phenomenon or concept. Models are often conceptual in nature and the term ‘model’ does not always imply a physical product.

Big Idea: Structure and Transformation of Matter (Physical Science)

A basic understanding of matter is essential to the conceptual development of other big ideas in science. In the elementary years of conceptual development, students will be studying properties of matter and physical changes of matter at the macro level through direct observations, forming the foundation for subsequent learning. The use of models (and an understanding of their scales and limitations) is an effective means of learning about the structure of matter. Looking for patterns in properties is also critical to comparing and explaining differences in matter.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Primary Enduring Knowledge – Understandings

Students will understand that

- objects are made of one or more materials and investigating the properties of those materials helps in sorting and describing them.
- tools such as thermometers, magnifiers, rulers and balances can give more information about objects than can be obtained by just making observations.
- things can be done to materials to change some of their properties, but not all materials respond the same way to what is done to them.
- water can be a liquid, solid, or gas and can go back and forth from one form to another.
- in science, it is often helpful to work with a team and to share findings with others. All team members should reach their own individual conclusions, however, about what the findings mean.

Primary Skills and Concepts

Students will

- use senses to observe and describe properties of material objects (color, size, shape, texture, flexibility, magnetism)
- use appropriate tools (e.g., balance, metric ruler, thermometer, graduated cylinder) to measure and record length, width, volume, temperature and mass of material objects and to answer questions about objects and materials
- investigate the physical properties of water as a solid, liquid and gas
- classify water and other matter using one or more physical properties
- observe and predict the properties of material objects
- work with others to investigate questions about properties of materials, documenting and communicating observations, designs, procedures and results

Big Idea: Motion and Forces (Physical Science)

Whether observing airplanes, baseballs, planets, or people, the motion of all bodies is governed by the same basic rules. In the elementary years of conceptual development, students need multiple opportunities to experience, observe, and describe (in words and pictures) motion, including factors (e.g., pushing, pulling) that affect motion.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Primary Enduring Knowledge – Understandings

Students will understand that

- things move in many different ways (e.g., fast and slow, back and forth, straight, zig zag, etc.).
- forces (pushes or pulls) can cause objects to start moving, go faster, slow down, or change the direction they are going.
- the position of an object can be described by locating it relative to another object or the background.
- vibration is a type of motion that is responsible for making sound.
- magnetism is a force that can make some things move without touching them.
- discovering patterns through investigation/observation allows predictions, based on that evidence, to be made about future events.

Primary Skills and Concepts

Students will

- identify points of reference/reference objects in order to describe the position of objects
- observe and describe (e.g., using words, pictures, graphs) the change in position over time (motion) of an object
- make qualitative (e.g., hard, soft, fast, slow) descriptions of pushes/pulls and motion
- use tools (e.g., timer, meter stick, balance) to collect data about the position and motion of objects in order to predict changes resulting from pushes and pulls
- explore differences in sounds (high and low pitch) produced by vibrations (e.g., making musical instruments that have moving parts that vibrate to produce sound)
- observe interactions of magnets with other magnets and with other matter (e.g., magnets have a force that can make some things move without touching them; larger size of a magnet does not have to mean it has greater force) in order to make generalizations about the behavior of magnets
- use standard units of measurement (e.g., meters, inches, seconds) during investigations to evaluate/compare results
- ask questions about motion, magnetism and sound and use a variety of print and non-print sources to gather and synthesize information

Big Idea: The Earth and the Universe (Earth/Space Science)

The Earth system is in a constant state of change. These changes affect life on earth in many ways. Development of conceptual understandings about processes that shape the Earth begin at the elementary level with understanding what Earth materials are and that change occurs. At the heart of elementary students' initial understanding of the Earth's place in the universe is direct observation of the Earth-sun-moon system. Students can derive important conceptual understandings about the system as they describe interactions resulting in shadows, moon phases, and day and night. The use of models and observance of patterns to explain common phenomena is essential to building a conceptual foundation and supporting ideas with evidence at all levels.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Primary Enduring Knowledge – Understandings

Students will understand that

- people use a variety of earth materials for different purposes because of their different properties. All products that people use somehow come from the Earth.
- some events in nature have a repeating pattern. Weather changes from day to day, but things such as temperature or precipitation tend to be similar (high, medium or low) in the same months every year.
- the sun, moon and stars appear to move slowly across the sky at different speeds and we can see patterns in their movement with careful observation.
- the sun can only be seen in the daytime. The moon can sometimes be seen during the day and sometimes be seen at night and its shape changes in a predictable pattern.
- observable interactions of the sun, moon and the Earth can be used to identify the apparent pattern of their movement.
- raising questions about the Earth and the Universe and seeking answers to some of them (by careful observation and/or investigation) is what science is all about.

Primary Skills and Concepts

Students will

- use senses and scientific tools (e.g., hand lens/magnifier, metric ruler, balance, etc.) to observe, describe and classify earth materials (solid rocks, soils, water and air) using their physical properties
- explore how earth materials are used for certain things because of their properties
- observe weather conditions and record weather data over time using appropriate tools (e.g., thermometer, wind vane, rain gauge, etc.)
- use weather data to describe weather conditions and make simple predictions based on patterns observed (e.g., daily, weekly, seasonal patterns)
- observe the locations and real or apparent movements of the sun and the moon
- investigate evidence of interaction between the sun and the Earth (e.g., shadows, position of sun relative to horizon) to support inferences about movements in the Earth/Sun system
- communicate observations, investigations and conclusions orally and with written words, charts and diagrams

Big Idea: Unity and Diversity (Biological Science)

All matter is comprised of the same basic elements, goes through the same kinds of energy transformations, and uses the same kinds of forces to move. Living organisms are no exception. Elementary students begin to observe the macroscopic features of organisms in order to make comparisons and classifications based upon likenesses and differences. Looking for patterns in the appearance and behavior of an organism leads to the notion that offspring are much like the parents, but not exactly alike. Emphasis at every level should be placed upon the understanding that while every living thing is composed of similar small constituents that combine in predictable ways, it is the subtle variations within these small building blocks that account for both the likenesses and differences in form and function that create the diversity of life.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

Primary Enduring Knowledge – Understandings

Students will understand that

- most living things need water, food and air, while nonliving things can continue to exist without any requirements.
- plants and animals have features that help them live in different environments.
- some animals are alike in the way they look and in the things they do, and others are very different from one another.
- the offspring all living things are very much like their parents, but not exactly alike.
- organisms may not be able to survive if some of their parts are missing.

Primary Skills and Concepts

Students will

- describe the basic needs of organisms and explain how these survival needs can be met only in certain environments
- identify the characteristics that define a habitat
- investigate adaptations that enable animals and plants to grow, reproduce and survive (e.g., movements, body coverings, method of reproduction)
- analyze structures of plants and animals to make inferences about the types of environments for which they are suited
- use scientific tools (e.g., hand lens/magnifier, metric ruler, balance) to observe and make comparisons of organisms; and to classify organisms using one or more of their external characteristics (e.g., body coverings, body structures)
- analyze and compare a variety of plant and animal life cycles in order to uncover patterns of growth, development, reproduction and death of an organism
- ask questions that can be investigated, plan and conduct ‘fair tests,’ and communicate (e.g., write, draw, speak, multi-media) findings to others

Big Idea: Biological Change (Biological Science)

The only thing certain is that everything changes. Elementary students build a foundational knowledge of change by observing slow and fast changes caused by nature in their own environment, noting changes that humans and other organisms cause in their environment, and observing fossils found in or near their environment.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.6 Students understand how living and nonliving things change over time and the factors that influence the changes.

Primary Enduring Knowledge – Understandings

Students will understand that

- fossils found in Earth materials indicate that organisms and environmental conditions may have been different in the past.
- living things are found almost everywhere on our planet, but organisms living in one place may be different from those found somewhere else.
- some changes are so slow or so fast that they are hard to see.
- things change in some ways and stay the same in some ways.

Primary Skills and Concepts

Students will

- identify and describe evidence of organisms that no longer exist (fossils)
- examine fossils/representations of fossils and make comparisons between organisms that lived long ago and organisms of today (e.g., compare a fern to a fossil of a fern-like plant)
- make inferences about the basic environments represented by fossils found in earth materials (e.g., fossils of fish skeletons represent an aquatic environment)
- investigate and describe occurrences in the environment that illustrate change (e.g., erosion, earthquakes, weather phenomena, human intrusion)
- compare fossils, plants and animals from similar environments in different geographic locations
- describe in words, pictures and/or measurements, changes that occur quickly (e.g., puddles forming from rain, cutting hair, burning paper) and changes that occur more slowly (e.g., hair growing, water evaporating in an open container, growing in height), noting the factors that influence the change

Big Idea: Energy Transformations (Unifying Concepts)

Energy transformations are inherent in almost every system in the universe—from tangible examples at the elementary level, such as heat production in simple earth and physical systems to more abstract ideas beginning at middle school, such as those transformations involved in the growth, dying and decay of living systems. The use of models to illustrate the often invisible and abstract notions of energy transfer will aid in conceptualization, especially as students move from the macroscopic level of observation and evidence (primarily elementary school) to the microscopic interactions at the atomic level (middle and high school levels).

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Primary Enduring Knowledge – Understandings

Students will understand that

- energy makes things move, grow or work. Everything that changes uses energy to make those changes happen. Sometimes evidence of these changes can be seen, but not always.
- almost all kinds of food that animals eat can be traced back to plants. Food chains/webs are useful models of these relationships.
- the sun warms the air, land and water, and lights the Earth.
- light can be observed to determine how it travels and how it interacts with different materials (e.g. reflects, is absorbed, passes through).
- electricity can only flow when it has a closed path (circuit) to follow. Closed electric circuits can produce light and sound.

Primary Skills and Concepts

Students will

- identify examples and sources of energy
- create or interpret sketches, diagrams, 3-dimensional constructions and concept maps as models that can be used to represent things that can be seen, cannot be seen, or cannot be seen easily or in their entirety
- observe, illustrate and explain basic relationships of plants and animals in an ecosystem (e.g., use simple food chains and webs to explain how plants and animals get food/energy to live and grow)
- observe and describe evidence of the sun providing light and heat to the Earth
- demonstrate open and closed circuits using batteries, bulbs and wires and analyze models of basic electrical circuits in order to determine whether a simple circuit is open or closed
- investigate light traveling in a straight line until striking an object by observing the shapes of the shadows that are produced
- explore a variety of models (e.g., food chains, webs, circuit diagrams) to infer whether the representation is complete or only part of the actual event/object

Big Idea: Interdependence (Unifying Concepts)

It is not difficult for students to grasp the general notion that species depend on one another and on the environment for survival. But their awareness must be supported by knowledge of the kinds of relationships that exist among organisms, the kinds of physical conditions that organisms must cope with, the kinds of environments created by the interaction of organisms with one another and their physical surroundings, and the complexity of such systems. Elementary learners need to become acquainted with ecosystems that are easily observable to them by beginning to study the habitats of many types of local organisms. Students begin to investigate the survival needs of different organisms and how the environment affects optimum conditions for survival.

Academic Expectations

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

Primary Enduring Knowledge – Understandings

Students will understand that

- the world has many different environments. Distinct environments support the lives of different types of organisms.
- when the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.

Primary Skills and Concepts

Students will

- identify the characteristics of an ecosystem
- observe, document and explain how organisms depend on their environments
- describe and explain how the environment can be affected by the organisms living there
- describe how changes in an environment might affect plants' and animals' ability to survive
- ask questions that can be explored using a variety of appropriate print and non-print resources (e.g., why certain plants can not survive in a particular area; why some animals are endangered or extinct; why some areas are 'protected')

PRIMARY SOCIAL STUDIES

Program of Studies – Social Studies – Primary

The social studies program in primary includes connections to literature, active, hands-on work with concrete materials and appropriate technologies. Although the social studies program for primary is divided into five areas, each area is designed to interact with the others in an integrated fashion. Because of this integration, students are able to develop broad conceptual understandings in social studies. This style of learning reflects the developmental nature of children.

The primary purpose of social studies is to help students develop the ability to make informed decisions as citizens of a culturally diverse, democratic society in an interdependent world. The skills and concepts found throughout this document reflect this purpose by promoting the belief that students must develop more than an understanding of social studies content. They must also be able to apply the content perspectives of several academic fields of the social studies to personal and public experiences. By stressing the importance of both content knowledge and its application, the social studies curriculum in Kentucky provides a framework that prepares students to become productive citizens.

The social studies content standards at the primary level are directly aligned with Kentucky's **Academic Expectations**. Social Studies standards are organized around five “Big Ideas” that are important to the discipline of social studies. The five Big Ideas in social studies are: Government and Civics, Cultures and Societies, Economics, Geography and Historical Perspective. The Big Ideas, which are more thoroughly explained in the pages that follow, are conceptual organizers that are the same at each grade level. This consistency ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of social studies. The understandings represent the desired results - what learning will focus upon and what knowledge students will be able to explain or apply. Understandings can be used to frame development of units of study and lesson plans.

Skills and concepts describe ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for social studies are fundamental to social studies literacy and build on prior learning.

The social studies program includes strong literacy connections, active hands-on work with concrete materials, and appropriate technologies. The social studies curriculum includes and depends on a number of different types of materials such as textbooks, non-fiction texts, biographies, autobiographies, journals, maps, newspapers, photographs and primary documents. Higher order thinking skills, such as compare, explain, analyze, predict, construct and interpret, are all heavily dependent on a variety of literacy skills and processes. For example, in social studies students must be able to understand specialized vocabulary, identify and comprehend key pieces of information within texts, determine what is fact and what is opinion, relate information across texts, connect new information to prior knowledge and synthesize the information to make meaning.

Big Idea: Government and Civics

The study of government and civics equips students to understand the nature of government and the unique characteristics of American representative democracy, including its fundamental principles, structure and the role of citizens. Understanding the historical development of structures of power, authority and governance and their evolving functions in contemporary U.S. society and other parts of the world is essential for developing civic competence. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

Academic Expectations

2.14 Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

2.15 Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

Primary Enduring Knowledge – Understandings

Students will understand that

- local governments are formed to establish order, provide security and accomplish common goals.
- citizens of local communities have certain rights and responsibilities in a democratic society.
- local communities promote the basic principles (e.g., liberty, justice, equality, rights, responsibilities) of a democratic form of government.

Primary Skills and Concepts

Students will

- demonstrate (e.g., speak, draw, write) an understanding of the nature of government:
  - explain basic functions (to establish order, to provide security and accomplish common goals) of local government
  - explore and give examples of the services (e.g., police and fire protection, maintenance of roads, snow removal, garbage pick-up)
  - investigate how the local government pays for services (by collecting taxes from people who live there)
  - explain the reasons for rules in the home and at school; and compare rules (e.g., home, school) and laws in the local community
  - investigate the importance of rules and laws and give examples of what life would be like without rules and laws (home, school, community)
- explore personal rights and responsibilities:
  - explain, demonstrate, give examples of ways to show good citizenship at school and in the community (e.g., recycling, picking up trash)
  - describe the importance of civic participation and locate examples (e.g., donating canned food to a class food drive) in current events/news
- use a variety of print and non-print sources (e.g., stories, books, interviews, observations) to identify and describe basic democratic ideas (e.g., liberty, justice, equality, rights, responsibility)

Big Idea: Cultures and Societies

Culture is the way of life shared by a group of people, including their ideas and traditions. Cultures reflect the values and beliefs of groups in different ways (e.g., art, music, literature, religion); however, there are universals connecting all cultures. Culture influences viewpoints, rules and institutions in a global society. Students should understand that people form cultural groups throughout the United States and the World, and that issues and challenges unite and divide them.

Academic Expectations

2.16 Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

2.17 Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

Primary Enduring Knowledge – Understandings

Students will understand that

- culture is a system of beliefs, knowledge, institutions, customs/traditions, languages and skills shared by a group of people.
- cultures develop social institutions (e.g., government, economy, education, religion, family) to structure society, influence behavior, and respond to human needs.
- interactions among individuals and groups assume various forms (e.g., compromise, cooperation, conflict, competition).
- a variety of factors promote cultural diversity in a community.
- an understanding and appreciation of the diverse complexity of cultures is essential to interact effectively and work cooperatively with the many diverse ethnic and cultural groups of today.

Primary Skills and Concepts

Students will

- develop an understanding of the nature of culture:
  - explore and describe cultural elements (e.g., beliefs, traditions, languages, skills, literature, the arts)
  - investigate diverse cultures using print and non-print sources (e.g., stories, books, interviews, observations)
- investigate social institutions (e.g., schools) in the community
- describe interactions (e.g., compromise, cooperation, conflict, competition) that occur between individuals/groups
- describe and give examples of conflicts and conflict resolution strategies

Big Idea: Economics

Economics includes the study of production, distribution, and consumption of goods and services. Students need to understand how their economic decisions affect them, others and the nation as a whole. The purpose of economic education is to enable individuals to function effectively both in their own personal lives and as citizens and participants in an increasingly connected world economy. Students need to understand the benefits and costs of economic interaction and interdependence among people, societies and governments.

Academic Expectations

2.18 Students understand economic principles and are able to make economic decisions that have consequences in daily living.

Primary Enduring Knowledge – Understandings

Students will understand that

- the basic economic problem confronting individuals and groups in our community today is scarcity; as a result of scarcity economic choices and decisions must be made.
- a variety of fundamental economic concepts (e.g., supply and demand, opportunity cost) impact individuals, groups and businesses in the community today.
- economic institutions are created to help individuals, groups and businesses in the community accomplish common goals.
- markets enable buyers and sellers to exchange goods and services.
- production, distribution and consumption of goods and services in the community have changed over time.
- individuals, groups and businesses in the community demonstrate interdependence as they make economic decisions about the use of resources (e.g., natural, human, capital) in the production, distribution, and consumption of goods and services.

Primary Skills and Concepts

Students will

- develop an understanding of the nature of limited resources and scarcity:
  - investigate and give examples of resources
  - explain why people cannot have all the goods and services they want
  - solve economic problems related to prioritizing resources, saving, loaning and spending money
  - explore differences between limited natural resources and limited human resources
- investigate banks in the community and explain how they help people (e.g., loan money, save money)
- compare ways people in the past/present acquired what they needed, using basic economic terms related to markets (e.g., goods, services, profit, consumer, producer, supply, demand, buyers, sellers, barter)
- describe and give examples of production, distribution and consumption of goods and services in the community

Big Idea: Geography

Geography includes the study of the five fundamental themes of location, place, regions, movement and human/environmental interaction. Students need geographic knowledge to analyze issues and problems to better understand how humans have interacted with their environment over time, how geography has impacted settlement and population, and how geographic factors influence climate, culture, the economy and world events. A geographic perspective also enables students to better understand the past and present and to prepare for the future.

Academic Expectations

2.19 Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.

Primary Enduring Knowledge – Understandings

Students will understand that

- the use of geographic tools (e.g., maps, globes, charts, graphs) and mental maps help to locate places, recognize patterns and identify geographic features.
- patterns emerge as humans move, settle and interact on Earth's surface and can be identified by examining the location of physical and human characteristics, how they are arranged and why they are in particular locations.
- people depend on, adapt to, and/or modify the environment to meet basic needs. Human actions modify the physical environment and in turn, the physical environment limits and/or promotes human activities.

Primary Skills and Concepts

Students will

- develop an understanding of patterns on the Earth's surface using a variety of geographic tools (e.g., maps, globes, charts, graphs):
  - locate and describe familiar places at school and the community
  - create maps that identify the relative location of familiar places and objects (e.g., school, neighborhood)
  - identify major landforms (e.g., continents, mountain ranges) and major bodies of water (e.g., oceans, rivers)
- investigate the Earth's surface using print and non-print sources (e.g., books, magazines, films, Internet, geographic tools):
  - locate and describe places (e.g., local environments, different habitats) using their physical characteristics (e.g., landforms, bodies of water)
  - identify and explain patterns of human settlement in different places
- compare ways people and animals modify the physical environment to meet their basic needs (e.g., clearing land to build homes versus building nests and burrows as shelters)
- recognize how technology helps people move, settle, and interact in the world

Big Idea: Historical Perspective

History is an account of events, people, ideas and their interaction over time that can be interpreted through multiple perspectives. In order for students to understand the present and plan for the future, they must understand the past. Studying history engages students in the lives, aspirations, struggles, accomplishments, and failures of real people. Students need to think in an historical context in order to understand significant ideas, beliefs, themes, patterns and events, and how individuals and societies have changed over time in Kentucky, the United States and the World.

Academic Expectations

2.20 Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.

Primary Enduring Knowledge – Understandings

Students will understand that

- history is an account of human activities that is interpretive in nature. A variety of tools (e.g., primary and secondary sources) are needed to understand historical events.
- history is a series of connected events shaped by multiple cause-effect relationships, tying past to present.
- history has been impacted by significant individuals and groups.

Primary Skills and Concepts

Students will

- develop an understanding of the nature of history using a variety of tools (e.g., primary and secondary sources, family mementoes, artifacts, Internet, diaries, timelines, maps):
  - examine the past (of selves and the community)
  - distinguish among past, present and future people, places, events
  - explain why people move and settle in different places; explore the contributions of diverse groups
- use print and non-print sources (e.g., stories, folktales, legends, films, magazines, Internet, oral history):
  - investigate and give examples of factual and fictional accounts of historical events
  - explore and give examples of change over time (e.g., transportation, clothing, communication, technology, occupations)
- investigate the significance of patriotic symbols, patriotic songs, patriotic holidays and landmarks (e.g., the flag of the United States, the song “My Country, ‘Tis of Thee,” the Fourth of July, Veterans’ Day, the Statue of Liberty)

PRIMARY TECHNOLOGY

Program of Studies – Technology – Primary

Technology use in the 21st century has become a vital component of all aspects of life. For students in Kentucky to be contributing citizens, they must receive an education that incorporates technology literacy at all levels. Technology literacy is the ability of students to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century. The Technology Program of Studies provides a framework for integrating technology into all content areas. It reflects the basic skills required for each student to be competitive in the global economy.

For students to gain the technology competencies, it is essential that they have access to technology during the school day in all grade levels. Instruction should provide opportunities for students to gain and demonstrate technology skills that build primary through grade 12.

The technology content standards should be integrated into each curricular discipline. The purpose of integrating technology is to help students make useful connections between what they learn in each content area and the real world. Technology knowledge, concepts and skills should be interwoven into lessons or units and taught in partnership with other content areas. Technology lends itself to curriculum integration and team teaching. Technology can enhance learning for all students, and for some it is essential for access to learning.

The technology content standards are organized by grade spans: primary, intermediate, middle, and high. The technology program of studies at the primary level includes beginning competencies related to technology literacy. Students are involved in the use of technology for communicating and collaborating with others and in developing ideas and opinions. Students interact with developmentally appropriate applications (e.g., interactive books, graphic organizers, reading and writing assistants, mathematical and scientific tools). Through this experience, students gain a positive view of technology as tools for learning.

The technology content standards at the primary grade span are directly aligned with Kentucky's **Academic Expectations**. Technology standards are organized around three Big Ideas that are important to the discipline of technology. The three Big Ideas in technology are: **1) Information, Communication and Productivity; 2) Safety and Ethical/Social Issues;** and **3) Research, Inquiry/Problem-Solving and Innovation**. The Big Ideas are conceptual organizers for technology. Each grade level span ensures students have multiple opportunities throughout their school careers to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of *Enduring Knowledge/Understandings* that represent overarching generalizations linked to the Big Ideas of Technology. The understandings represent the desired results--what learning will focus upon and what knowledge students will be able to explain or apply. *Understandings* can be used to frame development of units of study and lesson plans.

Skills and Concepts describe ways that students demonstrate their learning and are specific to each grade level span. The skills and concepts for technology are fundamental to technology literacy, safe use and inquiry.

Big Idea: Information, Communication and Productivity

Students demonstrate a sound understanding of the nature and operations of technology systems. Students use technology to learn, to communicate, to increase productivity and become competent users of technology. Students manage and create effective oral, written and multimedia communication in a variety of forms and contexts.

Academic Expectations

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.
3.3 Students demonstrate the ability to be adaptable and flexible through appropriate tasks or projects.
6.1 Students connect knowledge and experiences from different subject areas.
6.3 Students expand their understanding of existing knowledge by making connections with new knowledge, skills and experiences.

Primary Enduring Knowledge – Understandings

Students will understand that

- technology is used in all content areas to support directed and independent learning.
- appropriate terminology, computer operations and applications assist in gaining confidence in the use of technology.
- technology requires proper care and maintenance to be used effectively.
- technology is used to communicate in a variety of ways.

Primary Skills and Concepts – Information

Students will

- investigate different technology devices and systems (e.g., computer processor unit, monitor, keyboard, disk drive, printer, mouse, digital cameras, interactive white boards)
- use and care for technology (e.g., computers, cell phones, digital cameras, scanners, multimedia) at home, school and community
- use appropriate technology terms (e.g., hardware, software, CD, hard drive)
- demonstrate proper keyboarding techniques, optimal posture and correct hand placement (e.g., left hand for left side keys and right hand for right side keys, special keys such as space bar, enter/return, backspace, shift, delete)

Primary Skills and Concepts – Communication

Students will

- use technology to communicate in a variety of modes (e.g., recordings, speech to text, print, media)
- participate in group projects and learning activities using technology communications

Primary Skills and Concepts – Productivity

Students will

- explain how information can be published and presented in different formats
- create a variety of tasks using technology devices and systems to support authentic learning

Big Idea: Safety and Ethical/Social Issues

Students understand safe and ethical/social issues related to technology. Students practice and engage in safe, responsible and ethical use of technology. Students develop positive attitudes toward technology use that supports lifelong learning, collaboration, personal pursuits and productivity.

Academic Expectations

2.17 Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.
3.6 Students demonstrate the ability to make decisions based on ethical values.
4.3 Students individually demonstrate consistent, responsive and caring behavior.
4.4 Students demonstrate the ability to accept the rights and responsibilities for self and others.
4.5 Students demonstrate an understanding of, appreciation for, and sensitivity to a multi-cultural and world view.

Primary Enduring Knowledge – Understandings

Students will understand that

- responsible and ethical use of technology is necessary to ensure safety.
- technology enhances collaboration to contribute to a learning community.
- acceptable technology etiquette is essential to respectful social interactions and good citizenship.
- technology is used in jobs and careers to support the needs of the community.
- assistive technology supports learning to ensure equitable access to a productive life.

Primary Skills and Concepts – Safety

Students will

- explain the importance of safe Internet use (e.g., iSafe skills)
- use safe behavior when using technology

Primary Skills and Concepts – Ethical Issues

Students will

- use responsible and ethical behavior in using technology
- adhere to the Acceptable Use Policy (AUP) as well as other state and federal laws

Primary Skills and Concepts – Social Issues

Students will

- work cooperatively with peers, family members and others when using technology
- collaborate with peers, family members and others when using technology
- explain how technology is used in jobs and careers

Big Idea: Research, Inquiry/Problem-Solving and Innovation

Students understand the role of technology in research and experimentation. Students engage technology in developing solutions for solving problems in the real world. Students will use technology for original creation and innovation.

Academic Expectations

1.1 Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
2.3 Students identify and analyze systems and the ways their components work together or affect each other.
5.1 Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
5.2 Students use creative thinking skills to develop or invent novel, constructive ideas or products.
5.4 Students use a decision-making process to make informed decisions among options.
5.5 Students use problem-solving processes to develop solutions to relatively complex problems.
6.1 Students connect knowledge and experiences from different subject areas.

Primary Enduring Knowledge – Understandings

Students will understand that

- technology assists in gathering, organizing and evaluating information from a variety of sources to answer an essential question.
- technology is used to analyze real world data and support critical thinking skills through inquiry/problem-solving in order to produce results and make informed decisions.

Primary Skills and Concepts – Research

Students will

- use teacher-directed Internet sources as a resource for information
- use electronic resources to access and retrieve information

Primary Skills and Concepts – Inquiry/Problem-solving

Students will

- gather technology information/data and use for problem solving in all content areas
- describe at least one strategy for problem solving while using technology (e.g., inquiry/problem-solving software, troubleshooting technology issues)

Primary Skills and Concepts – Innovation

Students will

- use technology for original creations/innovation in classroom
- express creativity both individually and collaboratively using technology

PRIMARY VOCATIONAL STUDIES

Program of Studies – Vocational Studies – Primary

The vocational studies program in the primary level develops an awareness of careers. This awareness includes the purpose of having a job, concepts of consumer decision-making, saving money, and connections between work and learning. The challenge is to empower students to make a connection between school and the world of work and to be productive citizens.

The primary level provides appropriate opportunities for students to be involved in activities designed to develop an appreciation of work and an awareness of self and jobs/careers. They should examine the relationship between school studies and work; this will enable them to make vital connections that will give meaning to their learning. Elementary students should begin to develop work habits, study skills, team skills and set short-term goals.

The vocational studies program at the primary level includes active, hands-on work with concrete materials and appropriate technologies. Although the vocational studies program for primary level is divided into five areas, each area is designed to interact with the others in an integrated fashion. Because of this integration, students are able to develop broad conceptual understandings in vocational studies. All content teachers are responsible for providing instruction in the Vocational Studies area.

The vocational studies content standards at the primary level are directly aligned with Kentucky's **Academic Expectations.** The vocational studies standards are organized around five "Big Ideas" that are important to the discipline of vocational studies. These big ideas are: Consumer Decisions, Financial Literacy, Career Awareness/Exploration/Planning, Employability Skills, and Communication/Technology. The Big Ideas are conceptual organizers for vocational studies and are the same at each grade level. This ensures students have multiple opportunities throughout their school career to develop skills and concepts linked to the Big Ideas.

Under each Big Idea are statements of Enduring Knowledge/Understandings that represent overarching generalizations linked to the Big Ideas of vocational studies. The understandings represent the desired results- that focus on learning, and the knowledge students will have to explain or apply. Understandings can be used to frame development of units of study and lessons plans.

Skills and concepts describe the ways that students demonstrate their learning and are specific to each grade level. The skills and concepts for vocational studies are fundamental to career awareness and builds on prior learning.

Academic Expectations 2.36 and 2.37 bring forward the career awareness in Vocational Studies. Vocational Studies provide a connection to Kentucky Learning Goal 3 (become self-sufficient individual) and Learning Goal 4 (become a responsible group members). These connections provide a comprehensive link between essential content, skills and abilities important to learning.

Big Idea: Consumer Decisions

Individual and families need to make consumer decisions due to the numerous products/services on the market, multiple advertising techniques, and the need to make responsible financial management decisions. Accessing and assessing consumer information, comparing and evaluating products and services, provides basis for making effective consumer decisions. Consumer decisions influence the use of resources and the impact they have on the community and environment.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
5.4 Students use a decision-making process to make informed decisions among options.

Primary Enduring Knowledge – Understandings

Students will understand that

- basic economic concepts are important for consumer decision-making.
- consumer decisions are influenced by economic and social factors.
- consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment.

Primary Skills and Concepts

Students will

- develop an understanding of how consumer decisions are influenced by economic and social factors by:
  - recognizing that consumers are people whose wants are satisfied by using goods and services
  - recognizing that producers are people who make goods and provide services
  - describing the steps in making consumer decisions
  - identifying the difference between wants and needs (e.g., food, clothing, and shelter) and the relationship to consumer decisions
  - describing major factors (e.g., price, quality, features) to consider when making consumer decisions
  - defining barter, giving examples of bartering (e.g., trading baseball cards with each other), and explaining how money makes it easier for people to get things they want
  - recognizing the relationship between supply and demand and the dependence one has on others to provide for wants and needs
  - identifying the ways friends may influence your decisions when making purchases
  - recognizing how media and advertising affect consumer decisions
- investigate media advertisements and newspaper stories that influence consumer decisions
- explore and use technology to access information as a consumer
- describe how consumer actions (e.g., reusing, reducing, recycling) influence the use of resources and impact the environment by:
  - describing some community activities that promote healthy environments

Big Idea: Financial Literacy

Financial literacy provides knowledge so that students are responsible for their personal economic well-being. As consumers, individuals need economic knowledge as a base for making financial decisions impacting short and long term goals throughout one's lifetime. Financial literacy will empower students by providing them with the skills and awareness needed to establish a foundation for a future of financial responsibility and economic independence.

Academic Expectations

2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
5.4 Students use a decision-making process to make informed decisions among options.

Primary Enduring Knowledge – Understandings

Students will understand that

- financial decisions impact the achievement of short and long-term goals.
- saving money is a component of financial decision-making.

Primary Skills and Concepts

Students will

- identify goals pertaining to money that might affect individuals and families
- investigate different ways to save money (e.g., piggy bank, local bank, savings bonds)

Big Idea: Career Awareness, Exploration, Planning

Career awareness, exploration and planning gives students the opportunity to discover the various career areas that exist and introduce them to the realities involved with the workplace. Many factors need to be considered when selecting a career path and preparing for employment. Career awareness, exploration and planning will enable students to recognize the value of education and learn how to plan for careers. The relationship between academics and jobs/careers will enable students to make vital connections that will give meaning to their learning.

Academic Expectations

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
5.4 Students use a decision-making process to make informed decision among options.

Primary Enduring Knowledge – Understandings

Students will understand that

- people need to work to meet basic needs.
- the connection between work and learning can influence one's future job/career.

Primary Skills and Concepts

Students will

- communicate the concepts of work and career
- examine and group careers found in the community
- identify that people need to work (e.g., chores, jobs, employment) to meet basic needs (e.g., food, clothing, shelter)
- describe the different job opportunities are available in the community
- explain different jobs/careers that use what they learn in school (e.g., mathematics, reading/writing, science, social studies) impacts future jobs/careers

Big Idea: Employability Skills

Employability skills will focus on student's competencies with their work habits and academic/technical skills that will impact an individual's success in school and workplace. School-to-work transition skills will help students develop interpersonal skills and positive work habits.

Academic Expectations

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
3.6 Students demonstrate the ability to make decisions based on ethical values.
4.1 Students effectively use interpersonal skills.
4.2 Students use productive team membership skills.

Primary Enduring Knowledge – Understandings

Students will understand that

- interpersonal skills are needed to be a responsible friend, family and team member.
- attitudes and work habits contribute to success at home, school and work.

Primary Skills and Concepts

Students will

- identify how interpersonal skills are needed to be a responsible friend, family and team member by:
  - identifying ways to cooperate at both home and school
  - learning the importance of working with others in groups
  - demonstrating how to work cooperatively by contributing ideas, suggestions and efforts
- describe how attitudes and work habits contribute to success at home, school and work by:
  - describing study skills needed in the school
  - describing how attitude can impact an individual's performance at school
  - learning how to follow routines (e.g., rules, schedules, directions) with minimal supervision
- describe the importance of working hard and efficiently (e.g., taking pride in one's work, being on task)
- examine potential job/careers in the community

Big Idea: Communication/Technology

Special communication/technology skills are needed for success in schooling and in the workplace. Students will be able to express information and ideas using a variety of technologies in various ways.

Academic Expectations

1.16 Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.

2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.

Primary Enduring Knowledge – Understandings

Students will understand that

- technology in school and the workplace can enhance learning and provide access to information and resources.
- communication skills are essential for jobs/careers.

Primary Skills and Concepts

Students will

- explore how technology is used in different jobs/careers
- investigate how technology in school and at work enhances learning and provide access to information and resources by:
  - identifying technology tools (e.g., electronic games, phones, computers) that are used in homes and schools
- identify ways written communication skills are used at school and in the workplace